

Wednesday, March 17 th , Track 1, AM		
8:30	8:40	AIChE Chicago Chair Introduction: Jeffrey Zalc
8:40	9:30	Keynote Introduction: Hakim Iddir Morning Keynote: William Schneider <i>Professor and Chair, Department of Chemical and Biomolecular Engineering, University of Notre Dame</i>
9:30	9:45	Networking Break
		Session I: Catalysis and Reaction Engineering Session Chair: Aditya Prajapati, University of Illinois at Chicago Session Co-Chair: Iman Nezam, Georgia Institute of Technology
9:45	10:10	Synthesis, Characterization and Analysis of TiO₂/ZnO Composites Photocatalytic Thin Films for Diurnal Fuel Vapor Degradation in Automobile Ibrahim Sanusi, Miami University
10:10	10:35	Improving the Selectivity of Epoxide Ring-Opening Using Diol Co-Catalysts for Polyurethane Applications Mihir Bhagat, Northwestern University
10:35	11:00	Controlled Oxygen-Peroxide Chemistry in LI-Oxygen Batteries By Molecular Redox Mediators Erik Askins, University of Illinois at Chicago
11:00	11:25	Controlled Grafting Synthesis of Silica-Supported Boron Melissa Cendejas, University of Wisconsin-Madison
11:25	11:45	Technical Session Open Q&A
11:45	12:45	Networking / Lunch Break
Wednesday, March 17 th , Track 1, PM		
12:45	1:45	Keynote Introduction: Robert Tsai Afternoon Keynote: Cathy Tway <i>Technology & Applications Director, Catalyst Technologies, Johnson Matthey</i>
1:45	2:00	Networking Break
		Session II: Climate Solutions Session Chair: Dennis O'Brien, Jacobs Engineering
2:00	2:25	Nuclear Power, Natural Gas, and the Impacts of Carbon Pricing Thomas Rausch, CWE
2:25	2:50	Dispassionate Deliberate Collaboration Can Resolve Global Warming and Its Climate Change Effects Thomas Rehm, STS Chair
2:50	3:15	Clues to Climate Mitigation Priorities from Global Greenhouse Gas Budgets Gavin McNicol, University of Illinois at Chicago
3:15	3:30	Technical Session Open Q&A
3:30	3:45	Networking Break
		Session III: Biorefining Technology Session Chair: Belma Demirel, BP
3:45	4:10	The Pursuit of a Cleaner Healthier World through Bio Renewables Grace Rhoades, Johnson Matthey
4:10	4:35	Techno-Economic Analysis of the Modified Mixelco Process [canceled] Chloe Simchick, Milwaukee School of Engineering
4:35	5:00	OPEN
5:00	5:15	Technical Session Open Q&A
5:15	5:30	Networking Break
5:30	7:30	Chicago Section Monthly Technical Dinner Dinner Keynote: Sohail Murad Professor and Chair, Department of Chemical and Biological Engineering, Illinois Institute of Technology

Wednesday, March 17th, Track 2, AM

8:30	8:40	AIChE Chicago Chair Introduction: Jeffrey Zalc
8:40	9:30	Keynote Introduction: Hakim Iddir Morning Keynote: William Schneider <i>Professor and Chair, Department of Chemical and Biomolecular Engineering, University of Notre Dame</i>
9:30	9:45	Networking Break
		Session I: Fluid Properties, Fluid Dynamics and Transport Phenomena Session Chair: Joel Paustian, Honeywell UOP Session Co-Chair: Shri Dawande, Illinois Institute of Technology
9:45	10:10	CFD Modeling of a Bioreactor Reza Mostofi, Honeywell UOP
10:10	10:35	Design of a Fully Integrated Artificial Photosynthetic System for a Moisture-Gradient CO₂ Capture and Reduction Aditya Prajapati, University of Illinois at Chicago
10:35	11:00	Maxwell Viscoelasticity of Complex Fluids Mixtures Guler Bengusu Tezel, Bolu Abant Izzet Baysal University
11:00	11:25	Modeling and Numerical Simulation of Concentrated Solar Energy Storage in a Packed Bed of Silicon Carbide Particles [canceled] Zeyuan Gao, Illinois Institute of Technology
11:25	11:45	Technical Session Open Q&A
11:45	12:45	Networking / Lunch Break

Wednesday, March 17th, Track 2, PM

12:45	1:45	Keynote Introduction: Robert Tsai Afternoon Keynote: Cathy Tway <i>Technology & Applications Director, Catalyst Technologies, Johnson Matthey</i>
1:45	2:00	Networking Break
		Session II: Energy Storage I Session Chair: Hakim Iddir, Argonne National Laboratory Session Co-Chair: Juan Garcia, Argonne National Laboratory
2:00	2:25	Strain-Driven Surface Reconstruction and Cation Segregation in Layered Li(Ni_{1-x}YMn_xCo_y)O₂ (NMC) Cathode Materials Juan Garcia, Argonne National Laboratory
2:25	2:50	Structure-Activity Relationships in Lithium Ion Batteries: Solid State NMR Characterization of Lithium-Ion Cathodes and Anodes Fulya Dogan, Argonne National Laboratory
2:50	3:15	Understanding the (de)Lithiation Mechanism of Pb-Based Nanocomposite Anode for High Performance Lithium-Ion Batteries Jinhyup Han, Argonne National Laboratory
3:15	3:30	Technical Session Open Q&A
3:30	3:45	Networking Break
		Session III: Energy Storage II Session Chair: Juan Garcia, Argonne National Laboratory Session Co-Chair: Hakim Iddir, Argonne National Laboratory
3:45	4:10	A Lithium Accounting Model with Unstable Electrolytes: Protocol Dependence, Invisible Processes, and the Consequences of Reactivity Adam Tornheim, Argonne National Laboratory
4:10	4:35	NiMn₅₀SO₅₀-Based Cathodes As Next Generation Cathodes for Lithium-Ion Battery Anh Vu, Argonne National Laboratory
4:35	5:00	Lead-Based Nanocomposites As Anode Material for Sodium-Ion Batteries Jehee Park, Ulsan National Institute of Science and Technology / Argonne National Laboratory
5:00	5:15	Technical Session Open Q&A
5:15	5:30	Networking Break
5:30	7:30	Chicago Section Monthly Technical Dinner Dinner Keynote: Sohail Murad Professor and Chair, Department of Chemical and Biological Engineering, Illinois Institute of Technology

Thursday, March 18th, Track 1, AM		
8:30	8:40	Conference Chair Introduction: Robert Tsai
8:40	9:30	Keynote Introduction: Hakim Iddir Morning Keynote: Marius Stan <i>Senior Scientist and Leader of Intelligent Materials Design, Applied Materials Division, Argonne National Laboratory</i>
9:30	9:45	Networking Break
		Session I: Machine Learning and Optimization Session Chair: Joshua Gabriel, Argonne National Laboratory Session Co-Chair: Aditya Prajapati, University of Illinois at Chicago
9:45	10:10	Machine Learning Force Fields for Li-Ion Cathodes Joshua Gabriel, Argonne National Laboratory
10:10	10:35	Cost Productivity Approach to Industry 4.0 Cybersecurity Pranav Patel, ResiliAnt
10:35	11:00	Artificial Intelligence (AI) – Machine Learning (ML) Based Framework for Optimal Design of Interfacially Polymerized Thin Film Nanocomposite Membranes for Desalination [canceled] Jasneet Kaur Pala, BITS Pilani K K Birla Goa Campus
11:00	11:15	Technical Session Open Q&A
11:15	12:45	Networking / Lunch Break (Lunch from Professionals @ 11:30 AM)
Thursday, March 18th, Track 1, PM		
12:45	1:45	Keynote Introduction: Matthew Walters Afternoon Keynote: Ray Mentzer <i>Professor of Engineering Practice and Executive Director of Purdue Process Safety & Assurance Center, Davidson School of Chemical Engineering, Purdue University</i>
1:45	2:00	Networking Break
		Session II: Advances in Refining Session Chair: Belma Demirel, BP Session Co-Chair: Shahineze Saada, Honeywell UOP
2:00	2:25	Reducing Octane Loss – Solutions for FCC Gasoline Post-Treatment Services Claus Brostrom Nielsen, Haldor Topsoe A/S
2:25	2:50	Premium Performance Delivered in Challenging Middle Distillates Hydrotreating Operations Aaron Joss, Albemarle
2:50	3:15	Ultra-High Temperature Resistant Preformed Particle Gels for Enhanced Oil Recovery Buddhabhushan Salunkhe, Missouri University of Science and Technology
3:15	3:30	Technical Session Open Q&A
3:30	3:45	Networking Break
		Session III: Environmental Compliance and Remediation Session Chair: Jarad Champion, Geosyntec
3:45	4:10	Destructive Technologies for per- and Polyfluoroalkyl Substances (PFAS) Mary Enschede, Geosyntec
4:10	4:35	Improving Membrane Fouling Resistance in Water Filtration with Polyelectrolyte Complex Sacrificial Layers Yechan Wong, Geosyntec
4:35	5:00	Are Catastrophes Affecting Compliance? Katherine Culbert, K and K Process
5:00	5:15	Technical Session Open Q&A
5:15	6:30	Poster Reception
6:30	8:30	YP Social

Thursday, March 18th, Track 2, AM		
8:30	8:40	Conference Chair Introduction: Robert Tsai
8:40	9:30	Keynote Introduction: Hakim Iddir Morning Keynote: Marius Stan <i>Senior Scientist and Leader of Intelligent Materials Design, Applied Materials Division, Argonne National Laboratory</i>
9:30	9:45	Networking Break
		Session I: Process Safety and Occupational Health I Session Chair: David Hietala, Exponent Session Co-Chair: Jessica Morris, Exponent
9:45	10:10	Why Storage Tanks Leak and How to Stay Safe Jessica Morris, Exponent
10:10	10:35	Mechanical Integrity for Aging Process Facilities - Ensuring Safe Operations over Time Robert Weber, PSRG Inc.
10:35	11:00	Combustible Dust Hazards and Spray Drying Systems – Understanding NFPA 61’s New Requirements in a Dust Hazard Analysis Sean Dee, Exponent
11:00	11:15	Technical Session Open Q&A
11:15	12:45	Networking / Lunch Break (Lunch from Professionals @ 11:30 AM)
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1:45	2:00	Networking Break
		Session II: Process Safety and Occupational Health II Session Chair: Jessica Morris, Exponent Session Co-Chair: David Hietala, Exponent
2:00	2:25	Understanding Fire Hazards in Inert Cryogenic Systems Ehson Fawad Nasir, Exponent
2:25	2:50	Common Cause Failure – What Are They and How to Mitigate Them? Tekin Kunt, PSRG Inc.
2:50	3:15	Means to Achieve Backflow Prevention of Hazardous Chemicals from Process Vessels to Utility Pipelines Deepak Sharma, Bayer US
3:15	3:30	Technical Session Open Q&A
3:30	3:45	Networking Break
		Session III: Biomedical, Pharmaceutical, and Nano-Engineering Session Chair: Abhinav Bhushan, Illinois Institute of Technology Session Co-Chair: Seok Hoon Hong, Illinois Institute of Technology
3:45	4:10	Polymersome Encapsulation of a High Logp Protein-Protein Interaction Inhibitor to Achieve Increased Solubility and Therapeutic Index Yu Tian, University of Delaware
4:10	4:35	Engineering Shewanella Oneidensis for Bisphenol a Degradation and Biofilm Formation Jiacheng Zhou, Illinois Institute of Technology
4:35	5:00	Mechanical and Structural Characterization of Thin Films [canceled] Mark Haase, Anton Paar
5:00	5:15	Technical Session Open Q&A
5:15	6:30	Poster Reception
6:30	8:30	YP Social